

Claims

1. A structure for decommissioning and transporting an offshore fixed oil production platform (1) comprising framework elements substantially formed by a deck (2) and at least one supporting column (3), said structure comprising:

- a U-shaped floating hull (11) fitted with at least three lifting legs (12) for this hull (11), adapted to rest on the seabed (4), each lifting leg (12) being associated with mechanical displacement means (20) housed in a bearing framework (16) of said hull (11), and

- a shuttle (30) which can be displaced along the lifting legs (12) and intended to displace one of the framework elements (2, 3) of the platform (1), characterized in that said shuttle (30) is formed of at least three elements (31) each associated with a lifting leg (12) and each comprising, on the one hand, mechanical drive means (40) on the corresponding lifting leg (12) independent of the hull (11) of the structure (10) and, on the other hand, connecting means (50, 51) with the framework element (2, 3) to be displaced of said platform (1).

2. The structure as claimed in claim 1, characterized in that each element (31) of the shuttle (30) includes a vertical guidance branch (32) on the corresponding bearing framework (16) of the hull (11), whose top section comprises a horizontal branch (33) supporting the mechanical drive means (40) of said element (31) on the corresponding leg (12).

3. The structure as claimed in claim 1 or 2, characterized in that the mechanical drive means (40) of each element (31) comprise, on the one hand, two opposing plates (21) supported by each chord (14) of

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the corresponding lifting leg (12) each featuring, on each lateral face, a series of teeth (22) and, on the other hand, at least two opposing assemblies (42, 43), supported by the horizontal branch (33) of said element (31) and each formed of a pinion (43) driven rotationally and cooperating with one of the series of teeth (22).

4. The structure as claimed in one of claims 1 to 3, characterized in that the connecting means with the framework element formed by the deck (2) of the platform (1) comprise at least a horizontal plate (50) supporting this deck (2) and positioned on the bottom part of the vertical branch (32) of each element (31) of the shuttle (30).

5. The structure as claimed in any of claims 1 to 3, characterized in that the connecting means with the framework element formed by a supporting column (3) of the platform (1) comprise, for each element (31) of the shuttle (30), a linear, vertical traction device (51), formed of a chain or cable and two locking assemblies (60, 65) of said traction device (51), one (60) of said assemblies being supported by said element (31) and the other (65) of these assemblies being supported by the hull (11) for a gradual vertical displacement of the supporting column (3) by successive locking of said locking assemblies (60, 65).

6. The structure as claimed in claim 5, characterized in that each locking assembly (60, 65) is formed of two opposing locks (62a, 62b) that can tilt vertically toward one another between a position releasing the traction device (51) and a position blocking this traction device (51).

7. The structure as claimed in any of claims 1 to 6, characterized in that it includes an independent

branch (70) for sealing the hull (11) opening that is lockable on said hull (11).

8. A method of decommissioning and transporting a framework element of a fixed oil platform (1), formed of a deck (2), between a production site and a quay for disassembling the deck (2), characterized in that it consists of the following stages:

- 10 - positioning beneath the deck (2) a transport structure (10) comprising a U-shaped floating hull (11) fitted with at least three lifting legs (12) for this hull (11) and a shuttle (30) which can be displaced along these legs (12) independently of said hull (11),
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- applying the lifting legs (12) onto the seabed (4),
- lifting the hull (11) and the shuttle (30) to bring said shuttle (30) into contact with the deck (2),
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- locking the shuttle (30) onto the lifting legs (12),
- lowering the hull (11) to float it,
- 25 - separating the deck (2) from its supporting column (3),
- raising the deck (2) via the intermediary of the shuttle (30) under the rising action of the lifting
30 legs (12),
- displacing the structure (10) supporting the deck (2) to release said deck (2) from the supporting column (3),
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- lowering the shuttle (30) supporting the deck (2) to bring it onto the hull (11),

- floating the structure (10) supporting the deck (2) to the disassembly quay or to a site for unloading onto a barge,
- 5 - applying the lifting legs (12) onto the bottom to stabilize the hull (11),
- releasing the deck (2) from the structure (10), and
- 10 - unloading the deck (2) onto the quay or the barge.

9. A method of transporting and commissioning a framework element of a fixed oil platform (1), formed of a deck (2), between a quay or a barge and a
15 production site, characterized in that a structure (10) is used as claimed in any one of claims 1 to 7.

10. A method of decommissioning and transporting a framework element of a fixed oil platform (1), formed
20 of a section of a supporting column (3), between a production site and a quay for disassembling the supporting column (3), characterized in that it consists of the following stages:

- 25 - positioning around the supporting column (3), a U-shaped floating hull (11) fitted with at least three lifting legs (12) for this hull (11) and a shuttle (30) formed of at least three elements (31) that can each be displaced along one of said legs (12) independently of
30 the hull (11),
- applying the lifting legs (12) onto the seabed (4),
- lifting the hull (11) and the elements (31) of the
35 shuttle (30),
- connecting each element (31) of the shuttle (30) to the section of supporting column (3) via a linear traction device (51),

- separating the section of supporting column (3) from the rest of said column,
- 5 - locking each traction device (51) to each element (31) of the shuttle (30),
- raising the elements (31) of the shuttle (30) to lift the section of supporting column (3),
- 10 - locking the traction devices (51) alternately to the elements (31) of the shuttle (30) and the hull (11) and lowering and raising said elements (31) to gradually lift the section of supporting column (3),
- 15 - bringing the shuttle (30) supporting the section of supporting column (3) into contact with the hull (11),
- lowering the shuttle (30) and the hull (11) to float it,
- 20 - continuing the descent of the hull (11) to cause the lifting legs (12) of the structure (10) to ascend by reaction,
- 25 - displacing the structure (10) supporting the section of supporting column (3) to remove this section from the production site and bring it to a loading site on a barge (80),
- 30 - applying the lifting legs (12) on the unloading site on the seabed (4),
- lifting the hull (11) and the shuttle (30) to raise the section of supporting column (3) above the water level,
- 35 - positioning the barge (80) in the structure (10) beneath said section,

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- lowering the hull (11) and the shuttle (30) to place the section of supporting column (3) onto the barge (80),

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- detaching the traction devices (51) from the section of supporting column (3), and

- bringing the barge (80) carrying the section of supporting column (3) to the disassembly quay and repeating these stages for other sections of said supporting column (3).

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11. A method of transporting and commissioning a framework element of a fixed oil platform (1), formed of a section of supporting column (3), between a quay and a production site, characterized in that a structure (10) is used as claimed in any one of claims 1 to 7.

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